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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,679	01/22/2002	Kannan Raj	35706.5400	7918

20322 7590 11/29/2002

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EXAMINER

WILLE, DOUGLAS A

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 11/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/055,679

Applicant(s)

RAJ ET AL.

Examiner

Douglas A Wille

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1 - 16, drawn to a device, classified in class 257, subclass 428.

II. Claims 17, 18, drawn to a method, classified in class 438, subclass 48.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case instead of the device having an optoelectronic device attached, it could be formed as an integral part of the substrate.

3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Cynthia Pilotte on 10 July 2002 a provisional election was made without traverse to prosecute the invention of I, claims 1 - 16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17, 18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

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currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 4, 9 and 11 - 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hahn.

8. Hahn shows (see Figures 2, 5 and column 3, line 47 et seq.) a substrate (not labeled), a waveguide 103 overlying the substrate, a reflective structure, the end of the waveguide, which is aligned to the waveguide and an optoelectronic structure 101 attached to the substrate.

9. With respect to claim 4, Hahn shows the waveguide as a polymer (column 4, line 12).

10. With respect to claim 9, Hahn shows a Fiber 109.

11. With respect to claims 11 and 12, Hahn shows element 101 is a VCSEL which is a laser (column 4, line 32).

12. With respect to claims 13 and 14, Hahn shows (Figure 5) that 105 is a PIN photodiode detector (column 6, line 67).

*Claim Rejections - 35 USC § 103*

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 2, 5 - 7, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn in view of Kuo et al. ('529).

15. With respect to claims 2 and 7, Hahn shows the basic device and Kuo et al. ('529) show (see cover Figure and column 2, line 34 et seq.) that the molded portion surface 112 enables coupling to the core region (column 4, line 11). It would have been obvious to use the molded shape shown by Kuo et al. ('529) to enable coupling to the core region of the fiber in the Hahn device. The curved surface inherently provides focussing.

16. With respect to claims 5 and 6, Kuo et al. ('529) show that the reflector surface can be coated with Ag or Au to optimize the reflectivity (column 5, line 8).

17. With respect to claims 15 and 16 the waveguide and the reflector are on the substrate and are in optical alignment with the waveguide.

18. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn in view of Kato et al.

19. Hahn shows the waveguide as a polymer (column 4, line 12) and Kato et al. shows an optical assembly (see cover Figure and column 8, line 10) where a waveguide can be formed from glass (doped silicon oxide) (column 13, line 61). It would have been obvious to form the

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waveguide using glass as a design alternative since glass is a well known and readily available material.

20. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn in view of Kuo et al. ('814).

21. Kuo et al. ('814) show that the waveguide can be formed as part of the substrate (see cover Figure and column 2, line 11 et seq.) and that such an arrangement provides a cost effective and manufacturable in a high volume environment (column 1, line 58). It would have been obvious to use the Kuo et al. ('814) structure in the Hahn device for the advantages shown.

22. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hahn in view of Dwarkin et al.

23. Dworkin et al. shows a fiber to optoelectronic coupling (see cover Figure and column 3, line 60 et seq.) where lenses are used to properly focus the light on to the end of the fiber (column 4, line 49). It would have been obvious to use a lens to insure proper focusing of the light onto the fiber.

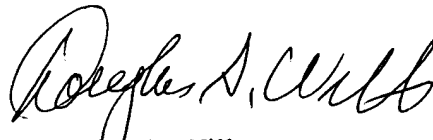
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A Wille whose telephone number is (703) 308-4949. The examiner can normally be reached on M-F (6:15-3:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in cursive script, appearing to read "Douglas A. Wille".

Douglas A. Wille  
Patent Examiner

November 27, 2002